

Discovery Of Earthing

The remarkable story of the discovery of Earthing™ began when a retired cable TV executive started to think about biology. Over a period of about 23 years, Clint Ober watched cable TV thrive by giving customers images that were superior to broadcast television. What does cable TV have to do with health? The answer may surprise you.

The crisp image delivered by the cable is the result of shielding that prevents signals from leaking out and prevents noise from leaking in. The cable consists of an inner copper conductor surrounded by a mesh shield. The shield is electrically connected to the earth (grounded), so that the earth can either deliver or absorb electrons and prevent the build-up of electrical charges. All of the shielding must be at the same electrical potential as the earth's surface.

Sometime after his retirement, Clint began to consider how his experience with cable TV might apply to the human body. He realized that most people wear synthetic-soled shoes that insulate their bodies from the earth. Clint wondered if this loss of natural grounding might affect health. He began investigating with a simple voltmeter, using a procedure he had used many times to check the electrical potential on shielded cables. He found a substantial potential of 4 to 5 volts on the surface of his body when he was sitting at his computer. Voltages are induced onto the body by electric fields radiating from household electrical wires and appliances such as lights and computers.

Clint took the voltmeter around his house, observing how his body voltage varied as he moved from place to place. His bedroom and his bed were the most "electrically active" regions of his home. His bed was up against a wall with electrical wires hidden behind it. Clint wondered whether connecting to the earth during sleep might be helpful – especially since sleep is the time the body regenerates.

To test his idea, Clint placed a crude conducting system on his mattress and connected it to a wire that went out his bedroom window to a rod pushed into the earth. Lying down on this grounded surface, his body voltage dropped to nearly zero. He found that his connection with the conductive mattress was equivalent, electrically, to lying directly on the earth.

At that time, Clint did not sleep well. Several surgeries had left him with chronic back pain that kept him awake every night. His first night of sleeping on the grounded mattress was extremely revealing. Lying down with his voltmeter he confirmed that his body voltage had dropped to nearly zero. He quickly fell asleep with the voltmeter on his chest and woke up the next morning with the voltmeter still on his chest. He had slept soundly for the first time in years, and had not moved at all during the entire night.

Excited by this discovery, Clint decided to try the system on some of his friends. The results were equally astonishing. Everyone reported that they slept much better on the grounded mattress. After several days, when one of Clint's friends mentioned that he was no longer stiff and sore in the morning, Clint suddenly realized that he had stopped taking pain medications in the morning. He had been waking stiff and sore for years, but that was no longer the case.

It was at this point that Clint realized he might have discovered something important. It occurred to him that there might be a similarity between the human

body and a TV cable. The TV cable has hundreds of channels of information flowing through it. Similarly, the body has miles of nerves, blood vessels, and other channels that conduct electrical signals. When the skin is grounded, it might prevent the entry of "noise" that can disturb physiological signaling.

Within a month, Clint had moved to California to find researchers and engineers who could help test and further develop the Earthing™ system. Clint adopted the term "Earthing™" to distinguish between the grounding of TV cables and electrical equipment and connecting the human body to the earth.

Clint's first question was whether there was any possibility that sleeping "earthed" could be harmful. Medical and electronics experts both reassured him that Earthing™ was perfectly safe. In fact, being "earthed" has actually been the natural state of living systems throughout evolutionary history – it is the separation from earth that is unnatural. A medical electronics expert suggested that Clint put a protective fuse in the Earthing™ wire, as is done with electrical devices, so that in the extremely unlikely event the grounding wire came in contact with electricity, the fuse would protect the individual on the pad.

After consulting with a scientist at UCLA, Clint set up his own blinded study. Sixty people with sleep problems, pain and stiffness were selected for the research. Half of them slept on an improved version of the mattress pad in their homes for 30 days. The results showed that people went to sleep more quickly, slept throughout the night, woke feeling more rested, had reduced muscle stiffness, reduced chronic back and joint pain, and improved general health. Several subjects reported significant relief from asthmatic and respiratory conditions, rheumatoid arthritis, PMS, sleep apnea, and hypertension.

One woman in the study had crippling arthritis in the joints of her hands and arms and had difficulty walking. Rather than asking her to move to an Earthing™ pad, Clint decided to demonstrate the change in body voltage while she sat in her chair. He substituted an EEG-type electrode patch for the mattress pad. After chatting for 5-10 minutes, the woman said the pain in her arm was much better; she asked for the patch to be moved to her other arm. Minutes later, she reported a reduction in the pain in that arm as well.

Clint immediately called some of his friends who had arthritis and other painful conditions, and gave them electrode patches and Earthing™ wires. Remarkably, everyone reported a reduction in pain. The Earthing™ patch seemed to produce very rapid reduction in inflammation.

In early 2000, a corporation was formed to research Earthing™, to develop a line of Earthing™ products, and to patent the ideas. United States Patent 6,683,779, for a personal body grounding system, was granted on January 27, 2004.

Clint met with anesthesiologist, Maurice Ghaly M.D., who was skeptical of the results of Clint's first study. Dr. Ghaly agreed to conduct his own study and monitor cortisol levels. Since cortisol is a reliable indicator of both stress and inflammation, shifts in cortisol levels would indicate whether or not inflammation was really being reduced.

In collaboration with Dale Teplitz, Dr. Ghaly studied a group of 12 people reporting pain and poor sleep. The subjects were grounded (earthed) during sleep in their own beds. Saliva was tested to determine the daily cortisol levels before and after six weeks of sleeping earthed. Each day during the study, the subjects were also asked to assess symptoms of sleep dysfunction, pain, and stress.

Although Dr. Ghaly had set out to prove that the Earthing™ concept was flawed, what he found was just the opposite. To his surprise, he discovered that Earthing™ reduced nighttime levels of cortisol and shifted the 24-hour circadian cortisol rhythms toward normal. He also found that nearly all participants reported reduced or eliminated symptoms of a variety of pains and sleep disorders.

In 2003, news of the Earthing™ discovery reached Jeffrey Spencer, D.C., a specialist in athletic performance and recovery. As the chiropractor for the U.S. cycling team participating in the Tour de France, Jeff was prompted to investigate Earthing™ because of Dr. Ghaly's cortisol study. Cyclists and other high performance athletes often show abnormalities in cortisol rhythms; most cyclists begin to have trouble sleeping after several days of cycling in the demanding Tour.

Dr. Spencer recognized the potential of Earthing™ for treating a variety of problems related to athletic performance and chronic injury. He realized that sleeping earthed on a regular basis could provide athletes with a tremendous competitive advantage. That year during the Tour de France, the following outcomes were observed.

- Sleep was universally improved.
- Tendonitis was virtually eliminated.
- Wound healing and recovery from injury were vastly accelerated.
- Consistency of performance was significantly improved.
- Team morale remained high throughout the entire Tour.

Dr. Spencer now uses the Earthing™ technology in his practice which includes a number of high-profile athletes. Since 2003, Earthing™ has become standard protocol for the U.S. cycling team (now called Team Discovery) during the Tour de France.

The story of the discovery of Earthing™ is far from complete. During the last two years, several studies have shown that Earthing™ has nearly instantaneous effects on the brain, muscles, blood pressure, and respiratory rhythms. Clinical sleep studies are demonstrating improvements in a wide variety of parameters that influence quality of sleep.

The more we learn, the more we are coming to understand that one of the most important things we can do is maintain a connection with the earth. Fortunately, the Earthing™ technology makes that possible during the third of our lives we spend sleeping. The methods developed by Clint Ober enable anyone to have the benefits of being in contact with the earth, even in climates where standing outside barefoot is impractical.